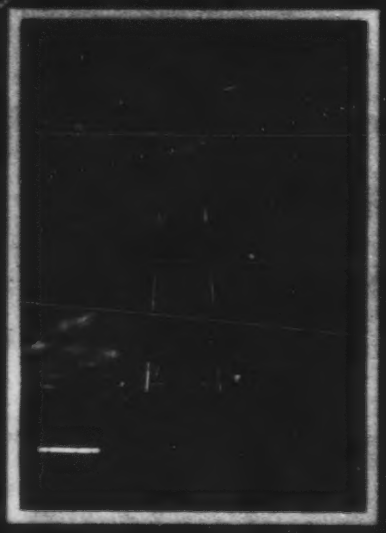
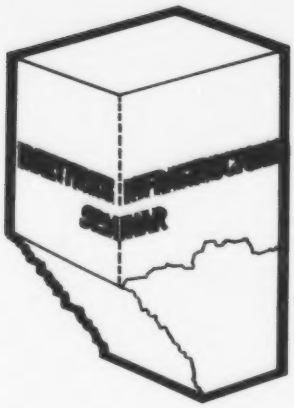
NORTHERN INFRASTRUCTURE SEMINAR

SLAVE LAKE
November 2-4, 1988



Alberta



Northern Infrastructure Seminar

SLAVE LAKE
November 2 - 4, 1988

NORTHERN ALBERTA DEVELOPMENT COUNCIL

90-00136/

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Alberta
NORTHERN ALBERTA
DEVELOPMENT COUNCIL

2nd Floor, Provincial Building, 9621 - 96 Avenue, Postal Bag 900-14, Peace River, Alberta, Canada T8S 1T4 403/624-6274 Fax 403/624-6184

July, 1989

As part of its ongoing series of conferences and seminars on topics important to the development of Alberta's North, the Northern Alberta Development Council hosted a Northern Infrastructure Seminar in Slave Lake on November 2 - 4, 1988.

The purpose of the Seminar was to review current infrastructure development in northern Alberta and discuss plans for the future.

Two hundred delegates attended the Seminar and came away with a clear picture of the continuing importance of infrastructure in the economic and social development of northern Alberta.

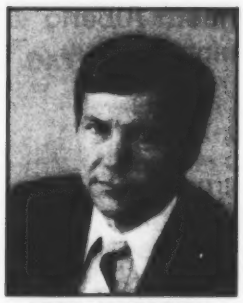
The Council is pleased to provide as public information this outline of the proceedings of the Seminar.

Bob Elliott, MLA
Chairman

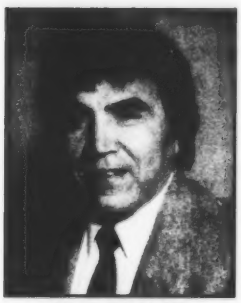
NORTHERN ALBERTA DEVELOPMENT COUNCIL 1988/89

BOB ELLIOTT
CHAIRMAN
BEAVERLODGE

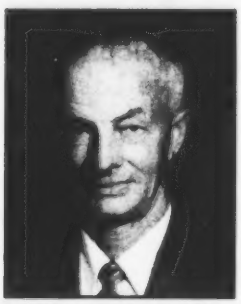
HON. AL "BOOMER" ADAIR
MINISTER RESPONSIBLE FOR
NORTHERN DEVELOPMENT
PEACE RIVER



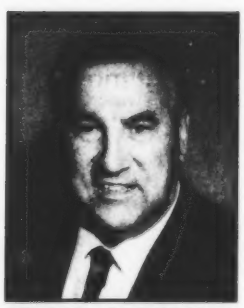
FRED GINGERICH
VICE-CHAIRMAN
ATHABASCA



MIKE BEAVER
DESMARAIS



JOHN DROBOT, MLA
ST. PAUL



MARCEL DUCHARME
BONNYVILLE

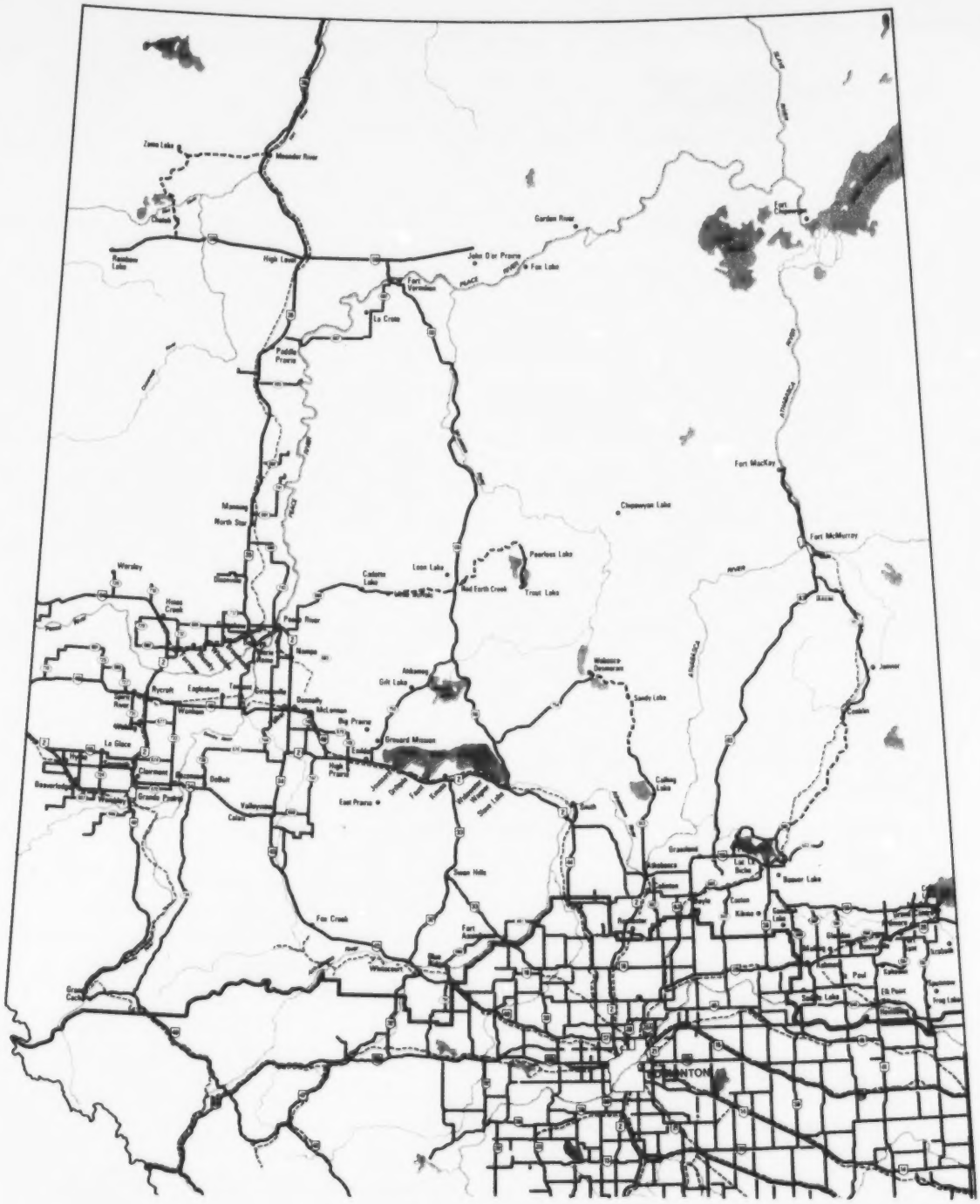
ELAINE GAUTHIER
PLAMONDON

KIM GHOSTKEEPER
PADDLE PRAIRIE

BERNIE HORNBY
FOX CREEK

DONALD KEITH
FORT McMURRAY

JIM REYNOLDS
FAIRVIEW



NORTHERN ALBERTA DEVELOPMENT COUNCIL AREA

COMMUNITIES WITH POPULATION OVER 75 (1991 CANADA CENSUS)

PRIMARY HIGHWAY — SECONDARY ROAD - - - - - L.O.C. ROAD ---------- RAILWAY

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Agenda

DAY 1 — November 2, 1988

2:00 p.m. Conference Registration

6:00 p.m. Opening Remarks
Bob Elliott, MLA, Northern Alberta Development Council Chairman
Greetings from Town of Slave Lake: Bill Pearson, Mayor

6:30 p.m. Dinner

7:30 p.m. "Infrastructure — The Catalyst for Development"
Keynote Speaker: Doug Webster, Professor, Faculty of Environmental Design, University of Calgary

8:30 p.m. Northern Mixer
Hosts: Town of Slave Lake, R. Angus Limited, Alberta Road Builders & Heavy Construction Association

DAY 2 — November 3, 1988

9:15 a.m. "Development Sectors and the Role of Infrastructure"

Panel A — Resource Sectors

Facilitator: Fred Gingerich, NADC, Athabasca
- Energy: John Vandermeer, Vice-President, Unocal Canada Ltd., Calgary
- Agriculture: Marv Anderson, Farmer/Consultant, Sherwood Park
- Forestry: Bill Phillips, Chairman, Dept. of Rural Economy, University of Alberta, Edmonton

Panel B — Community Sectors

Facilitator: Marcel Ducharme, NADC, Bonnyville
- Tourism: Randy Conrad, Consultant, Conrad and Associates, Edmonton
- Retail/Service: Frank Lovsin, Owner, Lovsin Markets Ltd., Peace River
- Community Infrastructure
  Municipal Perspective: Chuck Knight, Mayor, Fort McMurray
  Engineering Perspective: Ben Novak, Professional Standards Committee, APEGGA

12:00 Noon Luncheon

12:45 p.m. Luncheon Address

"Government's Response to Infrastructure Needs in Northern Alberta"
Hon. Al "Boomer" Adair, Minister, Transportation & Utilities; Minister Responsible for Northern Development

1:00 p.m. Workshop Sessions

1. Community and On-Farm Water and Sewer Programs
   Facilitator: Elaine Gauthier, NADC, Plamondon
   Mike Znak, Director, Municipal Services Branch, Alberta Transportation and Utilities
   Pat Lang, Municipal Engineering Branch, Alberta Environment
   Hank Larson, Area Manager, Alberta Field Operations, Prairie Farm Rehabilitation Administration
   Grant Bridgeman, Manager, Rural Water Section, Alberta Transportation and Utilities

2. Telephones, REAs and Gas Co-ops
   Facilitator: Don Keith, NADC, Fort McMurray
   Jim Dawson, Director, Telecommunications Development, Alberta Technology, Research and Telecommunications
   Ewald Roesler, Vice-President and General Manager, Network Services, Alberta Government Telephones
   Henry Tomlinson, Chairman, Federation of Alberta Gas Co-ops
   John Mann, Director, Rural Electric Branch, Alberta Transportation and Utilities

3. Regional Utility Services (Regional Water Pipelines, Regional Landfills, Hazardous Waste, etc.)
   Facilitator: Jim Reynolds, NADC, Fairview
   Bud Latta, Senior Project Officer, Stanley & Associates Engineering Ltd.
   Ken Simpson, Senior Vice-President, Alberta Special Waste Management Corp.
   Dave Barton, Senior Planner, Planning Division, Alberta Environment
   Chuck Curr, Regional Director - Peace Region, Improvement Districts and Native Services, Alberta Municipal Affairs

4. Roads to Resources
   Facilitator: Mike Beaver, NADC, Desmarais
   Cliff Smith, Assistant Deputy Minister, Alberta Forestry, Lands and Wildlife
   Leon Root, Assistant Deputy Minister, Alberta Transportation and Utilities
5. The Impact of Regulatory Reform on the Transportation Industry
   Facilitator: Bernie Hornby, NADC, Fox Creek
   Richard Barton, President, Time Air Inc.
   Gordon Bellingham, Chairman, Motor Transport Board
   John Kimpinski, Regional Director, National Transportation Agency
   Dennis Vincent, Alberta Trucking Association
   Ross Walker, Vice-President, Canadian National Railways
6. Alternate Forms of Transportation
   Facilitator: Kim Ghostkeeper, NADC, Paddle Prairie
   Jack Soulsby, Senior Director, Freight Transportation Services, Alberta Economic Development and Trade
   John Rymes, J.E. Rymes Consulting Engineers Limited

3:00 - 4:30 p.m. Workshop Sessions 1 - 6 Repeated

6:30 - 7:30 p.m. Dinner

7:30 - 8:00 p.m. Dinner Address
"New Development Roads to the Year 2000"
Al Theriault, Consultant, Stewart, Weir & Co.

8:00 - 9:30 p.m. Open Forums:

A. Road Network - Northwest
   Facilitator: Bernie Hornby, NADC, Fox Creek
   Jim Sawchuk, Regional Director, Alberta Transportation and Utilities
   Charles Lendzion, Regional Director, Alberta Transportation and Utilities

B. Road Network - Northeast
   Facilitator: Marcel Ducharme, NADC, Bonnyville
   Henri Hetu, Regional Director, Alberta Transportation and Utilities

DAY 3 — November 4, 1988

9:15 - 10:00 a.m. "Infrastructure and the Northern Economy"
Hon. Larry Shaben, Minister of Economic Development and Trade

10:30 - 11:45 a.m. Ministers' Open Question Period
Hon. Al "Boomer" Adair, Minister of Transportation and Utilities
Hon. Larry Shaben, Minister of Economic Development and Trade

11:45 - 12:00 Noon Closing Remarks
Dr. C.R. (Bob) Elliott, Chairman, Northern Alberta Development Council

12:00 - 1:00 p.m. Luncheon

1:00 p.m. Departure

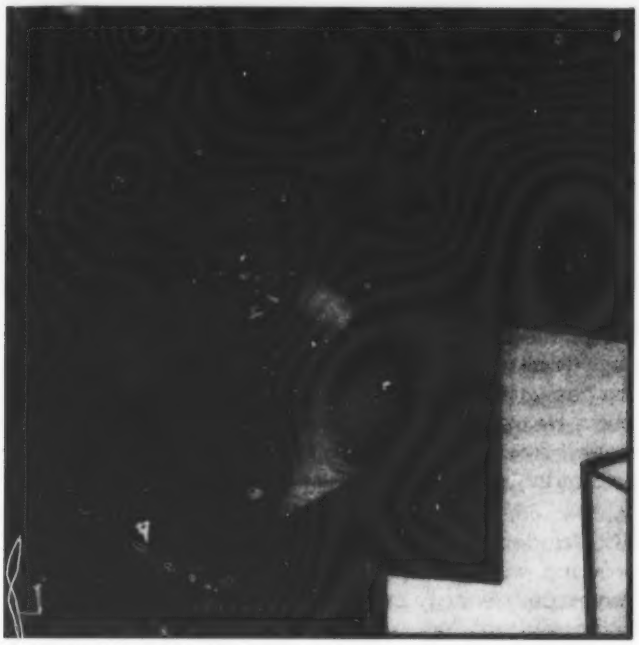
Seminar Opening

The Seminar was opened by Northern Alberta Development Council Chairman, Bob Elliott, MLA for Grande Prairie. He welcomed delegates and told them that a seminar format had been chosen to allow a maximum learning experience for all who attended.

He introduced Mayor Bill Pearson of the town of Slave Lake who welcomed everyone to the community.

Bill Pearson

Infrastructure — Catalyst for Development



Doug Webster, Professor of Environmental Design, University of Calgary

A well thought-out vision for the north's future must be the backdrop for the development of northern Alberta's infrastructure, in the opinion of Doug Webster. He made it clear that it is important to have realistic goals. To do this, it is necessary to see what is in store for the north by looking at general trends and conditions faced by northern Alberta.

He identified several global trends that will affect development of the north:

- a changing image of the north
- continued migration of people to the south
- slow northern population growth
- stress on quality-of-life rather than on population growth.

In speaking of the changing image, Dr. Webster reminded listeners that, once, the north was the subject of dreams. Later, people imagined the north as a mid-Canada corridor filled with people. They believed this corridor would be achieved only if there was a fully developed system of infrastructure. "But," Dr. Webster said, "this has changed." Many people today view the north as primarily a place where resources are extracted.

Other factors will affect northern Alberta:

- Communications technology will help to de-isolate the north.
- Pacific Rim demands will draw on both northern Alberta resources and on resource expertise.
- Good planning for infrastructure development will be necessary to cope with the Greenhouse Effect.
- The Fossil Fuel Age will end and northern Alberta will diversify into other energy sources, perhaps hydro-electricity.
- Forestry development will boom, at least for the next decade.
- Northern Alberta's tourism potential must be developed taking into consideration the region's cultural heritage.

In summary, Dr. Webster projected that the north will not become a major manufacturing centre but will, rather, remain resource-based for the next half-century. He believes the challenge for northerners is to create a society with a high quality-of-life, a sound environment, and with an infrastructure adequate to sustain stable growth. Such an infrastructure network would ensure the growth of a rich local culture. He pointed out that careful planning to take all these trends into consideration is a must and he urged that such planning begin at once.

Development Sectors and The Role of Infrastructure

Day Two

Two separate panel presentations introduced seminar participants to the relationship between infrastructure and economic development. The relationship was examined through focusing on: energy, agriculture, forestry, tourism, retail/service, community development.

Panel A — Resource Sectors

Energy, Agriculture, Forestry

Fred Gingerich, Vice-Chairman, Northern Alberta Development Council, introduced the panel members:

John Vandermeer, Vice-President, Unocal Ltd., Calgary

Marv Anderson, Farmer/Agricultural Consultant, Sherwood Park

Bill Phillips, Chairman, Department of Rural Economy, University of Alberta, Edmonton

Energy

John Vandermeer

Northern Alberta's infrastructure network owes much to energy development. New roads, new communications lines, and even new towns have been created to support the extraction of oil and gas.

John Vandermeer outlined the history of the petroleum industry in northern Alberta from the beginning of exploration in the 1950s until the present day. He credited government's involvement in improving road access to drilling areas as one factor that contributed greatly to exploration activity and successful development of the resource.

Pipelines, however, have proven to be the most important element in developing the petroleum industry in the north. He noted that oil in the major pools (largely in the western area) is collected through the pipeline system. As for natural gas, pipelines are only laid where the larger reserves exist — mainly in the eastern part of the province.

He pointed out that lack of access roads can halt such activity as recovery programs for heavy oil. One reason the coal market is not healthy today is high transportation costs. He made reference to some encouraging research undertaken into pipelining coal slurry which may be important to coal's future use.

Mr. Vandermeer concluded by saying that government working with industry is a necessary partnership for developing energy projects.

Agriculture

Marv Anderson

Northern Alberta has about 12,000 farmers and over 5.5 million acres of improved land for agriculture. Management of this land resource is a major factor in determining infrastructure development.

Marv Anderson noted that infrastructure costs are high and the agricultural sector's capacity to pay is declining.

Dr. Anderson told delegates that, as the agricultural land base in the north expands, some major transportation projects will be required. These include:

- a bridge at the Peace River Crossing on Secondary Road 697
- a north-south major collector road joining Secondary Roads 686 and 697
- a river crossing (ferry or bridge) east of Manning
- an east-west connection with the East Peace Road
- an east-west major collector road north of Lesser Slave Lake.

Dr. Anderson does not feel transportation infrastructure, such as market roads, is the only thing needed by agriculture today. He identified electric, telephone and natural gas services as other infrastructure which must also be updated. For example, dedicated lines for computer modems are needed as part of the regular telephone service.

Northern agriculture has unique characteristics and deserves planning that takes these into consideration.

Forestry

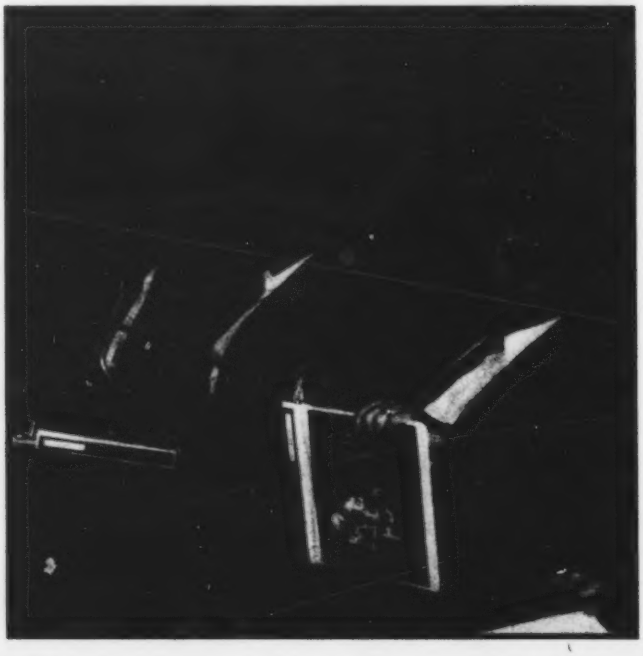
Bill Phillips

Alberta is the only province with a significant excess wood supply. There has been considerable growth in sawmilling in the past 30 years. At the time of the Seminar, 20 of Alberta's 30 largest sawmills were in northern Alberta.

Bill Phillips foresees an increase in demand for wood products with an accompanying demand for infrastructure. New transporation infrastructure including rail spurs, access roads and bridges will be needed. He cited as an example, the bleached Kraft (BK) pulp mill near Peace River which requires trunk roads east and west of the mill site and a bridge spanning the river as well as a rail spur to the town of Peace River.

In noting forestry's special place in the north he said most of the industry's potential for expansion is also in northern Alberta.

According to Dr. Phillips, the recent Canadian increase in wood use, notably aspen; ample supply in accessible sites; and projected increased demand will all lead to expansion in the forest industry. This will be an important and significant development for northern Alberta. Prospects, in Dr. Phillips' view, for continued forestry development in northern Alberta appear to be strong.



Panel B — Community Sectors

Tourism, Retail/Service, Community Infrastructure

Council facilitator, Marcel Ducharme, NADC, Bonnyville, introduced the panel members:
Randy Conrad, Conrad and Associates, Edmonton

Frank Lovsin, Lovsin Markets Ltd., Peace River
Chuck Knight, Mayor, Fort McMurray
Ben Novak, Professional Standards Committee, APEGGA

Tourism

Randy Conrad

Tourism in northern Alberta is in an immature stage of development. The north needs more infrastructure, services, access and accommodation to promote development in this sector.

Randy Conrad said infrastructure is a key prerequisite to tourism development. "With 90% of visitors travelling by rubber tire, it is logical to assume that product development will occur only if access to markets is provided." He pointed out that too many lakes and rivers in northern Alberta are inaccessible, even though many of these could sustain quality tourism development. Both east-west and north-south access are required, he said, noting that the northeast corner of the provice has prime opportunities in the Canadian Shield and Lake Athabasca region. East-west access will encourage inter-region travel as well as travel from both B.C. and Saskatchewan.

Mr. Conrad emphasized the fact that tourism can only grow and survive if northern communities develop and present a positive tourism "experience". Northern Alberta, he said, is seen as a sporting/adventure zone by tourism professionals. Therefore, such assets as the Alberta Oil Sands, the Athabasca Delta, nesting grounds for rare birds, the resources of the Lakeland Region, and the scenic Peace River must be promoted and developed. Historic resources are also important.

He concluded by saying that significant tourism growth will occur through improved access, wise preparation of the tourism product, and responsible marketing of the people, the heritage and the fine wilderness/adventure resources.

Retail/Service

Frank Lovsin

Frank Lovsin described his experiences as co-owner of a butcher shop in a location that had not yet become a real community. There were no water, sewer, electricity, gas service, serviced lots, sidewalks or streets. He rented a 3-kilowatt power plant but could not do two things needing electricity at once. Otherwise the power failed.

Most people have not tried to do business under such circumstances, he said, and consequently we take sewer and water for granted. He pointed out that even today, there are many obstacles to overcome before a developer has access to all the necessary infrastructure. He said he has run into some of those obstacles himself and queries whether all the paperwork, studies, red tape and bureaucratic input are really needed.

At the same time, Mr. Lovsin conceded, most communities have, at one time or another, had unfortunate experiences with developers and many regulations

that seem confining may be the result of such experiences.

Mr. Lovsin believes more should be done to ease the way for developers. "We need risk takers; we need entrepreneurs; we need builders — the creators of jobs. Most of our developments will not be West Edmonton Mall or the Peace River Pulp Mill, but will be the really small, young, dynamic developer who builds each of our communities," he told delegates.

He concluded a very dynamic presentation by reinforcing his premise that the role of the community builder is greatly enhanced when the proper infrastructure is in place.

Community Infrastructure

Municipal Perspective

Chuck Knight

Chuck Knight told delegates that a community unprepared for the impact of rapid growth will probably have devastating experiences. However, the negative impact of such growth and of a transient population can be reduced if the municipal authority is prepared and is willing to introduce proper regulatory measures.

When Fort McMurray mushroomed from 926 people in 1955 to 34,949 in 1987, it put housing development behind the eight-ball. To meet the demand, entrepreneurs bought unzoned land, requested rezoning, then sold the unserviced lots at inflated prices. Houses were not built and mobile home camps sprang up. The town's major problem quickly became its total focus on providing accommodation for incoming workers.

Unbalanced development was the result. Not enough emphasis was placed on transportation or essential public services. Social and recreational programs were non-existent. A large community with no bus system, serviced housing sub-divisions, recreation facilities or such necessities as family counselling services, does not attract people willing to sink their roots.

Mr. Knight stressed the fact that a community should try to attract families rather than transient workers. To attract families, proper infrastructure is part of the bottom line.

He went on to say that Fort McMurray is now an established, well-planned urban centre with its growing pains largely behind it. The population is stable, strict zoning bylaws are in place, and provision of infrastructure is part of the city's planning program.

A community must anticipate infrastructure needs and build for the future, Mr. Knight concluded.

Engineering Perspective

Ben Novak

Community planners and consulting engineers play a critical role in the placement of community infrastructure. As a professional who provides technical advice to

municipalities and governments, the consulting engineer strives for the ideal. This is not easy because budget constraints, the bidding process and the community's perception of its needs, sometimes compromise this goal.

Ben Novak described the role of the Association of Professional Engineers, Geologists and Geophysicists (APEGGA), which is to ensure consistency in the delivery of high quality professional services. He shared APEGGA's recommendations for selecting an engineer:

- Select by ability:
  - — Interview.
  - — Decide on scope of work.
  - — Discuss the project.
- Use the 2-envelope system for selection:
  - — Professional *fees* are part of the selection process and constitute the first envelope.
  - — The second envelope contains the *cost* bid.
  - — Open the second envelope only when the scope of the project is decided.

Mr. Novak made it clear that engineers are necessary in the chain of development of schools, hospitals, and so on. "If a community or government spends $2.4 million on a facility, the $100,000 engineering fee is a small part of it. It comes to 1%, or even less, of a life-cycle cost."

He reminded delegates that engineers have a special challenge to meet — that of designing a safe facility for the public.

Good infrastructure cannot be achieved by magic. If a community is unwilling to allow the necessary time for adequate planning and engineering, it will probably not get the best results.

"Let engineers make their contribution to the total concept," Mr. Novak suggested. "It is often in the problem definition stage that major financial commitments are initiated."

There is a close relationship between engineers and planners, Mr. Novak told delegates. Community leaders should recognize this and understand that better results are achieved when both are involved from the start.

"Engineers like to become involved as partners and build a legacy of knowledge to diversify the engineering base to work for the common good," he said.

Luncheon Address

Hon. Al "Boomer" Adair, Minister of Transportation and Utilities; Minister Responsible for Northern Development

Government's Response to Infrastructure Needs

Hon. Al "Boomer" Adair asked delegates to consider what has been accomplished regarding roads and utilities services in the past 20 years in northern Alberta.

"We, as a government, believe that the provision of infrastructure for communities and for the resource and agricultural industries is the best way for us to act as a catalyst for economic development," he said.

He pointed out that northern Alberta has approximately 4 100 km of primary and 3 400 km of secondary highways.

Transportation infrastructure has always had an important place in the development of northern Alberta, he said. "From the early days of the fur traders who travelled the water routes, to the early settlers who traversed the rugged wagon trails, to the post-war settlers who forged north to open new lands, to the early bush pilots who made the vital links with the remote northern communities, to the present day oil sand and pipeline developments — transportation has been both the biggest obstacle and the primary driving force behind development."

It has been a priority for the provincial government to overcome this obstacle so development can continue.

In noting that only four of the 42 communities within the Northern Alberta Development Council area are without all-weather roads, he reminded listeners that these communities have air service or winter roads and some have both. Northern Alberta, in fact, has the best air facilities in northern Canada with 27 licenced airports and 135 unlicenced ones.

As for utilities, Mr. Adair said, "We feel all northern communities are entitled to a basic level of service. We have a new goal which will see intermediate levels of service developed over time to continue to satisfy health and basic service needs in low tax base communities."

He told delegates that municipalities throughout the province have received approximately $750 million in grants since 1979 to assist in constructing water and sewage projects. About 25% was directed to the north. A special separate program called the Northern Supplementary Fund provides basic water and sewer infrastructure to remote northern areas where the tax base is low. By March 31, 1989, $35.4 million will have been spent under this program and the results are obvious. Every year, more and more northern municipalities are able to install sewer and water facilities.

Other programs to help with infrastructure exist. For example, the Farm Water Grant Program has helped nearly 1,000 northern farmers; and the Rural Gas Program, which has given support to county-owned gas utilities and gas co-ops, is extremely successful. Rural Electrification Revolving Fund, Small Power Research and Development, Utilities Officer Grant Programs are three other initiatives which have done a good job in helping people of northern Alberta achieve utilities services.

Under the Rural Electrification Revolving Fund Program, farmers are eligible for low-interest loans and interest-free advances to cover their share of the costs of new electrical service. In addition $140 million have been spent to lay pipelines for natural gas distribution; and, since 1973, when the Utilities Officer Grant Program went into effect, more than $7.9 million in grants have been provided.

Clearly, the province has responded to the north's need for infrastructure with innovative programs as well as with funds.

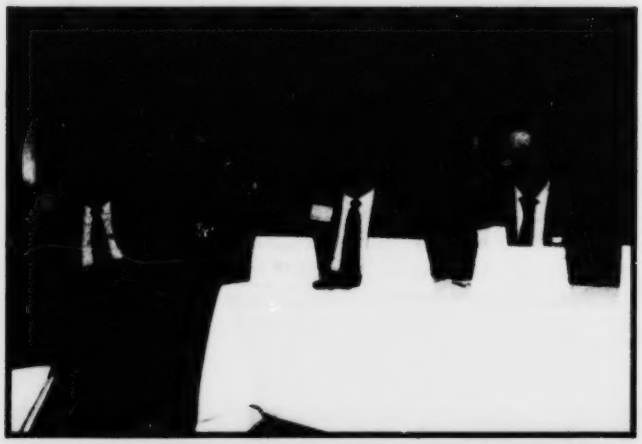
In concluding, Mr. Adair said: "My key point is that we have responded to the needs of the north and will continue to do so. Infrastructure and development are synonymous."

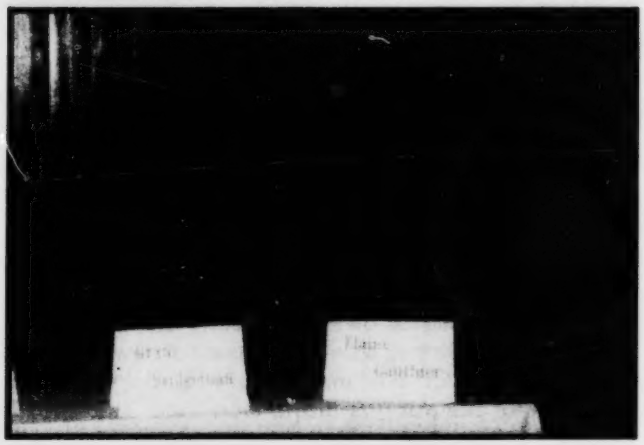
Concurrent Workshop Sessions

In the afternoon of Day 2, delegates broke into six groups, each with a separate topic to discuss with a panel of experts. Sessions ran concurrently and were repeated once with different groups of delegates participating.

A healthy economy and the viability of communities rest on adequate infrastructure. Government, both provincial and municipal, continues to attempt to meet the ongoing challenge of monitoring and extending infrastructure.

Workshop Session I — Community and On-Farm Water and Sewer Programs





Facilitated by Elaine Gauthier, NADC, Plamondon, the panel for Workshop I was composed of:
Mike Znak, Director, Municipal Services Branch, Alberta Transportation and Utilities
Pat Lang, Municipal Engineering Branch, Alberta Environment
Hank Larson, Manager, Alberta Field Operations, Prairie Farm Rehabilitation Administration
Grant Bridgeman, Manager, Rural Water Section, Alberta Transportation and Utilities

Mike Znak

Mike Znak outlined the responsibilities of the Municipal Services Branch. The branch administers a number of grant programs, some of which are listed below:

- Municipal Water and Sewer Treatment Grant Program
- Regional Utility Program
- Utility Officer Grant Program
- Street Assistance Program
- Regular road programs to bring rural roads up to standards.

Mr. Znak explained that most of the basic services are in place in today's north. The new thrust is to bring everything up to an intermediate level. However, to do this, new funding demands are created.

It is obvious that resources must be pooled. Municipalities and industry are being encouraged to cooperate to extend services. He used the town of Hinton as an example of cooperation between municipality and industry. In that community, the pulp mill provides water and sewage treatment for the community.

Municipalities must look toward the best long-range solution and must examine all possibilities. As well, they will have to balance what is affordable against what is considered an acceptable level of service.

Mr. Znak described some of the technical standards which are in place and suggested some ways to ensure that these are met in an efficient, cost-conscious manner:

- Provide good facilities.
- Recognize affordability.
- Review design to ensure acceptability and practicality.
- Lower expectations where acceptable, e.g., fire distribution systems.
- Hire on technical merit and qualifications rather than on lowest bid.
- Look for innovative approaches.
- Practise preventive maintenance to protect your investment.
- Use skilled operators.
- Monitor the system to detect deterioration.
- Practise conservation; water meters reduce consumption.
- Recognize necessity of integrated facilities and land use planning.
- Investigate shared landfills and multi-use systems.
- Run utilities as a business; user pays.

In noting his current year's budget ($83 million), Mr. Znak observed that approximately 25% is allocated to northern Alberta.

Pat Lang

The Special Projects Section of the Municipal Engineering Branch of Alberta Environment is responsible for a number of programs providing technical support, criteria, guidelines and standards under the Clean Water Act as well as other related legislation. The Branch's mandate is to ensure that communities have acceptable water supply, waste water and storm drainage systems, and that all public and environmental health standards are satisfied.

Pat Lang said most guidelines can be found in the Water Resources Act, the Clean Water Act, the Public Health Act and the Plumbing and Drainage Regulation.

These Acts all have different objectives. For example, the Clean Water Act is intended to protect watersheds from municipal and industrial pollution.

When a municipality wants to put a program into place to extend water distribution or sewage collection, to expand or build a new facility, or to install storm drainage systems or holding ponds, it must apply for and receive both a permit to construct and a licence to operate.

Much thought and care have gone into ensuring that Albertans have facilities that do not endanger public drinking water. Communities are required to have properly designed and operated water and sewage infrastructure which is also monitored to ensure that environmental and public health standards are maintained.

A booklet, "Standards for Municipal Water Supply, Waste Water and Storm Drainage Facilities," available free though Alberta Environment, shows the basis for all municipal water and waste water storm drainage systems design and approval.

Hank Larson

Hank Larson spoke about the Prairie Farm Rehabilitation Administration (PFRA). PFRA was established 50 years ago to address soil and water conservation issues in the three prairie provinces. Relevant programs and activities include:

- Rural Water Development Program
- Community Pasture Program
- Tree Distribution Program
- Technical and analytical services.

Water Development was one of the original programs to come under PFRA. It was set up during the dirty 30s to deal with the critical water shortages of that time. Similar devastation has occurred again with the droughts of the 1980s.

The Rural Water Development Program has three components:

- individual farm water services (dugouts, stock dams and pipelines, wells)
- group projects (source development)
- community projects (source development).

PFRA offers technical and financial assistance for all types of source development: for individual farmers, groups of five or more farmers, rural municipalities, improvement districts, counties, Indian bands, small communities with populations of 300 or fewer, and so on. Treatment of the water, engineering costs, land purchase, etc., are not eligible costs for assistance through PFRA.

In 1961, PFRA expanded its mandate to include Alberta's north. Mr. Larson added that, since 1973, Alberta has surpassed Saskatchewan in taking advantage of the allowable grants. In fact, in the last fiscal year (1987-88), 9,000 projects were being assisted by PFRA in Alberta. In 1988-89, some $9 million will be spent in Alberta.

Mr. Larson concluded his remarks by assuring the seminar participants that PFRA is interested in participating in the development of new agricultural frontiers in northern Alberta.

Grant Bridgeman

Grant Bridgeman described the mandate of the Alberta Farm Water Grant Program which provides financial assistance to bona fide farmers and ranchers who wish to build permanent water facilities for both household and livestock use. The program underwrites some costs connected with bringing water from a remote source to the place where livestock and households use it.

Some typical components of water transmission which are eligible for grants are: intakes to dugouts and streams, pumps, transmission pipes and trenching. Limited eligibility also covers electrical power to pumps, pumphouses and pressure tanks.

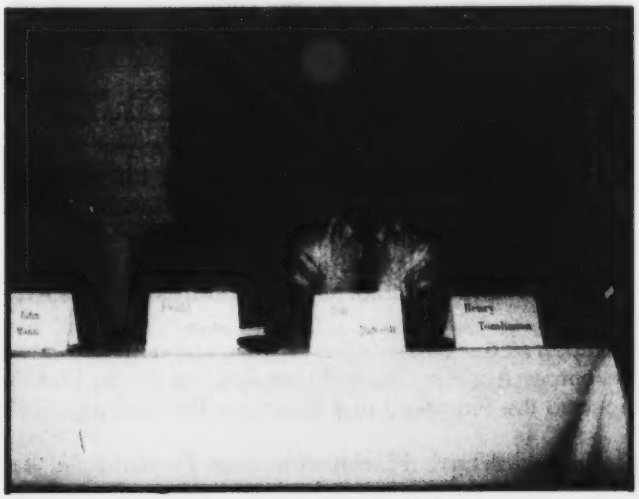
Qualifying projects may be funded at 75% of eligible costs with the maximum grant available being $15,000.

From September 19, 1985, when the program was announced, until August, 1988, 783 projects in northern Alberta have been supported to the extent of $2.6 million in grants. There were also nine group projects, totalling $1.3 million in grants, approved for the north. He said several group projects were also co-funded by PFRA.

The 1988 drought, which struck most of the province, placed a heavier than normal demand on the program and resulted in a backlog. Mr. Bridgeman said that although the budget is fully committed for the 1988/89 fiscal year, the program is slated to run to March 31, 1991. He advised those wishing to begin an individual project to check its eligibility by submitting an application. If a group system is contemplated, the Department of Transportation and Utilities, Rural Water Section, should be contacted directly. He noted that the eligibility of a project ends at the first point of livestock or domestic use, or at the place where a new source is connected to an existing system.

He closed his presentation with the observation that applications from northern Alberta have declined somewhat over the past year. Of the 16 group projects currently under consideration, only three are in the north.

Workshop Session II — Telephones, REAs and Gas Co-ops



Facilitated by Don Keith, NADC, Fort McMurray, the panel comprised:
Jim Dawson, Director, Telecommunications Development, Alberta Technology, Research and Telecommunications
Ewald Roesler, Vice-President, Network Services, Alberta Government Telephones
Henry Tomlinson, Chairman, Federation of Alberta Gas Co-ops
John Mann, Director, Rural Electric Branch, Alberta Transportation and Utilities

Jim Dawson

Jim Dawson outlined the mandate and programs of the Department of Technology, Research and Telecommunications. He described the role of this new department, created in 1986, as that of a catalyst which supports private sector high-technology. In policy matters, it tries to be regionally sensitive as well as rational.

He spoke at length about the Extended Flat Rate Calling Program (EFRC). Although the cost of EFRC is borne by all subscribers, it is not an equitable program, he said. That is, some people use it a lot, others do not use it much,

and still others use it not at all. There is now some movement toward restructuring the program to make it more user-pay.

He also brought the seminar up-to-date on the Rural Individual Line Service Program announced by Premier Getty a few years ago. Network modernization will be funded by AGT while government and rural subscribers will be accountable for the service. Two hundred and twenty million dollars in grants have been allocated to AGT to provide individual line service for every home in Alberta.

Ewald Roesler

New telecommunications technology is changing our impressions of distance and time while also improving quality-of-life. For these reasons, telecommunications is an exciting field of development for northerners.

Updating the seminar on department activities, Ewald Roesler stated that, since the 1986 NADC Telecommunications Conference in Athabasca, Alberta Government Telephones has expanded the following major programs:

- Network modernization
- Individual Line Service (ILS)
- Extended Flat Rate Calling (EFRC).

The AGT network is one of the most advanced in North America. The modernization program presently underway will extend touchtone dialling and other innovations to all rural areas of the province.The target completion date for this initiative is 1991.

ILS will provide individual lines to every subscriber at a significantly reduced cost compared to the past. A recent program extended EFRC by an additional 110 routes with 16 new ones in northern Alberta.

A new alternative to EFRC is the Community Calling Service. For a charge of $2 per month, customers can have a 30% discount from regular toll service within an 80 km radius. This service is especially advantageous if toll bills are usually higher than $6.65 per month.

Mr. Roesler said although Alberta already has an advanced telephone system, AGT will continue to install and use state-of-the-art technology to ensure continued high quality telephone service.

Henry Tomlinson

Henry Tomlinson explained the role of the Federation of Alberta Gas Co-ops Limited. The Federation provides information relating to the gas industry, training for rural gas utility staff, legal advice, and insurance coverage to members. As well, the Federation is actively involved in the development of new legislation affecting its members through presentation of members' concerns to government.

These co-ops are a fairly new phenomenon in Alberta. Locally-owned and locally-governed, they provide energy at a reasonable cost. Natural gas is the energy most often used for home and farm building heat, for grain drying, and even, to some extend, for internal combustion engines.

Almost all of the north except some of Smoky Lake, Athabasca and Grande Prairie is serviced by gas co-ops, Mr. Tomlinson said. Of the 74 co-ops in Alberta, 14 are in the NADC area.

He pointed out that this coverage was not easily achieved. Pipelines had to be laid and easements obtained from property owners (usually donated). Some co-ops had to go into debt.

Today, 15 years after the first co-op was started, all those in the Peace River Country are debt-free and rates are coming down. One reason they have been so successful is that propane and oil prices have been so high.

According to Mr. Tomlinson, gas co-ops in the NADC area serve about 10,250 farms, acreages and households.

But there is still work to do, Mr. Tomlinson said. It is necessary to educate people to the fact that gas is safe if used properly. Many do not realize that heating water by gas is 25% cheaper than doing it with electricity.

Mr. Tomlinson told delegates that the Federation is trying to bring the message to farmers that big is not always best. In grain drying, a small dryer run 24-hours-a-day is cheaper than a larger one run for a shorter time. Gas is a reliable, cheap source of energy, and the co-ops have proven to be a fine way to offer gas service.

John Mann

The Rural Electric Branch of Transportation and Utilities administers the Rural Electrification Program. This program is dedicated to ensuring that rural areas are properly served by electricity.

John Mann recalled that the first Rural Electrification Association (REA) was incorporated in 1947. Since then, 191 REAs have been formed. Thirty-eight are in northern Alberta. An REA is an association of farmers which owns and operates its own local electricity distribution facilities. An REA is run by an elected board of directors, each of whom has one vote and no proxy.

REAs have evolved over the years, Mr. Mann said, noting that the trend today is toward larger capacity services to match larger farms. However, the REA is still a co-operative association which allows an owner-operator approach to power distribution.

Low-interest loans (3.5%) are the primary vehicles for getting services to farmers through the REAs. Some costs are also eligible for no-interest loans. And, there are some grants. The following are ineligible for assistance:

- irrigation services converting from natural gas to electricity
- services installed for five or fewer years.

Mr. Mann spoke of an important new program announced in January, 1988. Grants for installation of electrical services in Metis settlements will now be available through the Isolated Communities Program. These settlements will work with the Department of Municipal Affairs to prepare plans and identify priorities for funding.

Another program administered by the Rural Electric Branch is called the "Generating Unit Grant Program." This involves a one-time grant for purchasing a generator unit. This assistance is offered only when it is not feasible or economical to extend electric distribution in any other way.

Mr. Mann suggested the people interested in the programs he spoke of should contact their local REA executive or the power company office in their area.

Workshop Session III — Regional Utility Services

Jim Reynolds, NADC, Fairview, facilitated this workshop. The following people made up the panel:
Bud Latta, Project Officer, Waste Management, Stanley & Associates Engineering Ltd.
Ken Simpson, Vice-President, Alberta Special Waste Management Corporation
Dave Barton, Senior Planner, Planning Division, Alberta Environment
Chuck Curr, Regional Director, Improvement Districts and Native Services, Alberta Municipal Affairs

Bud Latta

Bud Latta described the typical municipally owned regional solid waste management system in Alberta. He pointed out the two basic benefits of regionalized landfill sites:

- They provide adequate service.
- Financial assistance is available from the provincial government.

They are also relatively inexpensive. He estimated the cost of landfill at only $15-$30 per capita per year.

With regionalization of landfills, the number of sites can be reduced. Mr. Latta told listeners that a 1982 study

identified 705 active landfills in Alberta. After regionalization in 1987, landfills were reduced on an average of 16 to one.

Ken Simpson

Ken Simpson addressed the proper management of hazardous wastes. He said that since Canada's first integrated hazardous waste treatment facility at Swan Hills has been opened, attention has shifted to ensuring that small business wastes are efficiently and effectively collected and moved to the facility.

The Alberta Special Waste Management Corporation prevents wastes going into landfills not designed for certain types of wastes. "What we are up against now, is the need for transfer systems or sites to enable that kind of material to be shipped in bulk out of the community," he said.

The Swan Hills facility has helped to initiate two related projects that the Corporation is now involved with:

- Small Business Collection
  — This project would set up small community collection centres for collecting and shipping small quantities in a safe efficient way.
- Household Collection
  — A test project, underway in eight communities, will promote collection and proper disposal of household hazardous waste.

Dave Barton

Dave Barton's presentation on regional water supply informed participants of the primary justification for regional water supply programs — reduction of water service interruption.

Mr. Barton discussed regional water lines, their accompanying infrastructure and their implications for water management throughout the province — particularly the northern districts.

In his discussion of regional drainage systems as a part of the water management system, he noted that the cost benefit of drainage is difficult to analyze and is not generally considered to be infrastructure. However, he stressed that it is an important component in the total infrastructure network.

In conclusion, Mr. Barton reminded listeners that several things affect drainage. Among these are road construction and agricultural development. The north's high erosion potential is probably the most significant factor affecting the overall drainage picture.

Chuck Curr

The major mandate of Municipal Affairs is to assist municipalities to provide an acceptable level of services to residents, Chuck Curr told workshop participants.

Most municipal services can be put into four basic categories:

- revenue and expenditure, and maintaining compliance with regulations
- programming — tourism, recreation, economic development
- administration — school buildings, fire halls, equipment, landfills, cemeteries, etc.
- water and sewer facilities, communications systems, transportation networks, etc.

Before the Canada/Alberta Northern Development Subsidiary Agreement and the Northern Supplementary Funding Program, there was a big gap between services in incorporated centres and those in remote communities. Mr. Curr said although this gap has been reduced, there is still a long way to go.

The lack of a tax base affects the ability to pay forcing Municipal Affairs to write off hundreds of thousands of dollars in taxes each year because some communities are not able to pay for services, he said.

He noted the two major concerns regarding expansion of infrastructure:

- escalating operating costs
- capital replacement costs.

Mr. Curr would like to see provincial funding available for erosion and flood-control projects. He also suggested that more effort be placed on regional and joint facilities in an attempt to keep capital and operational costs to a minimum, for example, in waste management, fire protection, water supply lines, and recreational facilities.

Workshop Session IV — Roads to Resources

Workshop IV was facilitated by Mike Beaver, NADC, Desmarais. Two people made up the panel:
Cliff Smith, Assistant Deputy Minister, Alberta Forestry, Lands and Wildlife

Leon Root, Assistant Deputy Minister, Alberta Transportation and Utilities.

Mr. Root and Mr. Smith constitute a two-man committee to receive and evaluate industry's input and proposals regarding resource roads. They then make recommendations to the Ministers of Transportation, and of Forestry, Lands and Wildlife.

Leon Root

Prior to the Roads to Resources Program, according to Leon Root, all resource development roads were viewed as the responsibility of whatever industry was developing the resource. The Department of Transportation did not become involved in such roads until the public began to use them extensively.

The original Roads to Resources Program was initiated by the Department of Forestry, Lands and Wildlife, Mr. Root said, but it was eventually seen that Transportation would also have to be involved. Transportation then took over some roads to ranger towers as well as some other roads which Forestry used to maintain.

Currently, the Roads to Resources Program upgrades resource roads as well as county and MD roads used heavily by resource industries. Suncor, Esso Cold Lake, Daishowa, all fit into the Program.

In the coming year, 20 projects, jointly determined by Forestry and Transportation, will be part of the Roads to Resources Program. Next year's projects are not yet determined. Input at this Seminar, Mr. Root said, will be important in determining next year's projects.

Cliff Smith

With the surge in Alberta's forest development, infrastructure now demands a great deal of Forestry's time, according to Cliff Smith.

He told delegates that Alberta's forest industry is the third largest in Canada. Some major constraints to development do exist, though. These include:

- isolation and distance
- distance from tidewater
- weak species of hardwood (now not perceived that way)
- majority of resources located in north away from transportation infrastructure (railways, for example).

Since 1986, there has been a significant increase in new forestry projects and more increases are expected in the future. All these developments strain existing infrastructure and also make a demand for further infrastructure.

Mr. Smith explained the history and impact of the softwood lumber tax, and stressed the point that revenue received from it will be used for four separate programs:

- Roads to Forestry Resources
- Intensive Forest Management
- Forest Products Research
- Forest Industry Worker Safety and Training.

The Roads to Forestry Resources Program is in its first year. Although funded by the forest industry, it is not exclusive to that sector. That is, any roads built under the Program will be multiple-use roads and include not only the forest industry but also recreation and other industries.

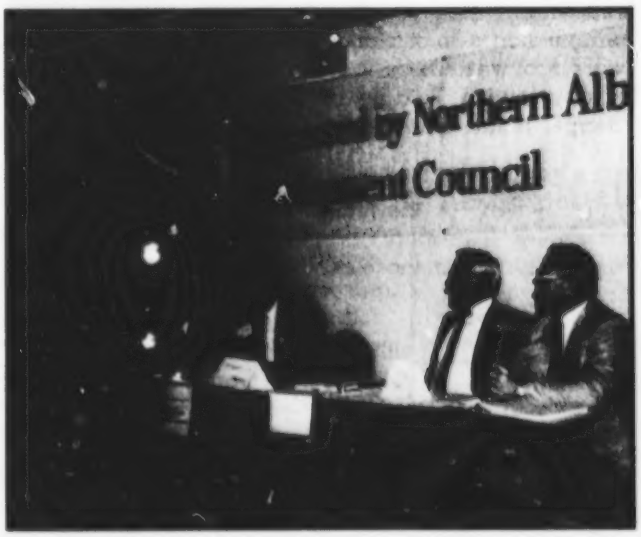
In fact, criteria used to determine the Program included the following:

- capability of multiple use
- capability of servicing both existing industry and potential new areas of development
- possibility of main road corridor status
- possibility of upgrading to secondary road status.

First funding for this new forestry road program will be approximately $15 million.

Several questions arose regarding industry benefits versus general public benefits. Many delegates also asked how to tie into the Program. There were questions about future routes northerners want built — for example, from Fort McMurray to Peace River and from Fort Nelson, B.C., to Rainbow Lake. Questions were brought forward about extra money available for boom communities, as well as about federal/provincial cost-sharing.

Workshop Session V — Impact of Regulatory Reform on the Transportation Industry



Bernie Hornby, NADC, facilitated Workshop V. The following panel members contributed:
Richard Barton, President, Time Air
Gordon Bellingham, Chairman, Alberta Motor Transport Board
John Kimpinski, Regional Director, National Transportation Agency
Dennis Vincent, Alberta Trucking Association
Ross Walker, Vice-President, Canadian National Railways

Richard Barton

Richard Barton discussed the effect of deregulation on the air industry. He said deregulation has done the following:

- allowed anyone to request a route
- reduced fares
- made it easier for new carriers to get established
- increased flight frequency
- made it easier for carriers to react to changes in the marketplace.

A major effect is that airlines are now market-driven. Discounts stimulate traffic and frequent flyer programs increase usage.

Mr. Barton noted several airline mergers. Time Air itself has a 10-year agreement with Canadian Airlines.

He said he believes the Canadian system of deregulation is superior to that in the United States. In fact, Canadian deregulation is an outstanding success. Compared to five years ago, western Canadians enjoy improved scheduling and service. To date, all Canadians have safer and cheaper flights than before.

Mr. Barton sees a gradual evolution into a "hub-and-spoke" service in the future. That is, communities will receive more frequent and inexpensive flights to major centres; then, from those centres larger craft will provide city-to-city service.

He conceded that, although service generally is better and cheaper than before for most Canadians, those who travel north of the 55th parallel have yet to see better service.

In concluding his presentation, Mr. Barton stated that the National Transportation Agency is responsible for monitoring the impact of new legislation and reporting to the federal Minister of Transport.

Gordon Bellingham

In 1986, with its "Freedom to Move" white paper, the federal government began a long-term reform of regulatory control for all modes of transportation, Gordon Bellingham told listeners. Out of this grew both the Motor Vehicle Transport Act, 1987 (Canada), or MVTA, and the National Transportation Act. The components of these Acts are being introduced in gradual stages.

For example, on January 1, 1988, the National Safety Code was initiated but the full extent of the Act will be implemented only on January 1, 1989, or later.

As yet, impacts caused by the changes are unknown. However, Alberta has already put into place the full intent of the federal Act and new vehicle weights and dimensions are now law. The maximum gross vehicle weight has been raised to 62 500 kg with specific design and axle spacing.

Since January of 1988, many new applications have been processed for extra provincial motor carrier operating authority. Before new interprovincial truckers are licensed, the following criteria are used to assess applications:

- fitness
- safety
- levels of insurance
- whether or not the operation is in the public interest.

The National Safety Code seeks to increase safety and educate the industry. Several carefully thought-out standards have been implemented and trained personnel inspect vehicles for operational safety. Driver safety will also be targeted and will be enhanced by enforcement of a maximum number of hours a driver is allowed to work. Mr. Bellingham said, "It is the intention that commercial vehicles on our highways will be the safest vehicles in Canada."

He noted that bus ridership fell by 56% and said this kind of drop jeopardizes some routes. In fact, one major route has suffered reduced service while another has been shortened and converted to van service.

There are also some glitches in regulatory reform at this time. For example, Canadian jurisdictions do not have uniform laws. This means Alberta carriers still encounter regulatory problems when applying for the authority to work elsewhere in Canada. Mr. Bellingham told participants that the Hon. Al "Boomer" Adair has already written to the Federal Transport Minister to request uniform legislation across Canada.

But, Mr. Bellingham concluded, it is highly likely that users of Alberta highways will benefit from regulatory reform, increased vehicle size and weight, and improved highway safety.

John Kimpinski

John Kimpinski also discussed the new National Transportation Act and regulatory reform. The Act reflects the federal government's plan for regulatory reform for all modes of transport: highway, water, rail and air. Although it is the intent of the Act to allow market forces to play a major role in determing service, price, etc., each transportation method has specific needs. Therefore, regulations have been designed for each mode as necessary and also to serve users wherever they live in Canada.

Regulation of busing and trucking companies was delegated to the individual provinces in 1954. The new Act continues the delegation authority but adds certain rules intended to ease entry into the trucking industry.

Mr. Kimpinski, in mentioning that various provinces interpret the regulations in different ways, pointed out that this results in a continued difference in licencing and operating rules from province to province.

The Act also covers water transport which affects the north since the Act deals with northern marine supply services in the Mackenzie River and western Arctic areas.

The new Act provides for improvements and remedies for various aspects of rail transportation services. He noted that:

- There will be a dispute mechanism.
- Shippers can now negotiate with railways.
- Rail abandonment will be streamlined while the public interest will still be protected.
- Inter-switching, between lines, will be allowed.
- Qualified companies will be allowed to operate short lines.

Mr. Kimpinski made reference to deregulation of air transport. Adjustment within the industry began prior to the new legislation taking effect and the long-term impact will not be known for some time.

Dennis Vincent

"On January 1, 1988, regulatory reform limped over the horizon — limped because not all provinces adhered," Dennis Vincent said.

Each province has a different idea of the meaning of regulatory reform, he said, and without guidelines, the provinces felt free to make their own. This means that, in some provinces, carriers have problems. He stated that Alberta carriers need an equal opportunity to haul in other provinces, just as out-of-province carriers are allowed to haul in Alberta.

He said it is absurd to have free trade with another country but not be sure we can get a licence in Ontario.

Mr. Vincent mentioned other concerns arising from regulatory reform. For example, because lawyers are expensive, small carriers have difficulty filing deregulation papers. They do not have in-house experts to help them.

He also expressed uncertainty about the National Safety Code which he hopes will not allow 12 separate jurisdictions for national carriers.

In concluding his remarks, he called for industry to sit down and discuss the differences between the concept and the reality of deregulation. In his opinion, carriers want a national, uniform entity which will be the foundation for a healthy industry in the future.

Ross Walker

The Canadian National Railway network provides northern Albertans with direct access to the 10 provinces and to all major Canadian ports. As well, CN has a link to the U.S. rail system.

Such a comprehensive network is necessary for northern Alberta because rail is used for shipping such major commodities as grain, lumber, sulphur, fuels, chemicals, lead-zinc concentrate, automotive and agricultural equipment, structural steel, supplies, and so on. Ross Walker said railways still carry 80% of the traffic for bulk commodities in western Canada.

He noted that railways were the primary instrument of development when the west was opening up. And, even today, Canada provides the best rail facilities and service in the world, according to one of our major trading partners — Japan. This is something to be proud of when we consider that we have longer hauling distances than any other country.

Some innovations in rail transport have occurred recently:

- Old switching regulations have been changed — from 4 km to 40 km.
- Railways and customers are allowed to negotiate with one another now. This deregulation concerns 60% of rail transport business, exclusive of grain.
- Capital line rates are now in place.
- The new National Transportation Act allows more scope for innovation and varied services.

In all, Mr. Walker said, the future looks more positive than negative for rail transport.

Questions, which concerned a wide range of topics, including the importance of freight shipments, rail line abandonment and air service north of the 55th parallel, concluded this workshop session.

Workshop Session VI — Alternate Forms of Transportation

Workshop facilitator was Fred Gingerich, NADC, Athabasca, who introduced the following panelists:
Jack Soulsby, Director, Freight Transportation Services, Alberta Economic Development and Trade
John Rymes, J.E. Rymes Consulting Engineers Ltd.

Jack Soulsby

Jack Soulsby talked about shippers' associations. Such organizations are formed when groups of shippers with similar problems and needs band together to consolidate individual members' shipments into carload-size loads. This results in lower rates and service contracts.

He pointed out that shippers' associations, by eliminating the cost penalty attached to Less-Than-Truckload (LTS) shipments, put small shippers on an equal basis with larger shippers.

Mr. Soulsby explained that shippers' associations are set up much like a corporation. They have boards of directors responsible for policy, but day-to-day operations fall under hired managers.

An association is run by and for its members and the interests of those members are in the forefront. In fact, he told delegates, associations are prohibited from serving non-members. An association represents all members in all facets of transportation/distribution. It deals with terminal agent/operators, common carriers, other associations, financial institutions, and government bodies on behalf of its membership.

While such associations have a long history in the U.S., there are few in Canada. One of these, Canadian Shippers Receivers Co-operative, based in Ontario, consolidates shipments to, but not from, Alberta. There is a recently established Alberta Forest Products Shippers' Association in this province.

Mr. Soulsby believes there are so few of these organizations in Canada because of a lack of awareness of them. Another factor is that no small shipper seems eager to get the process rolling.

In concluding his remarks, Mr. Soulsby said Alberta Economic Development and Trade is now identifying small Alberta shippers who could benefit from consolidation. The Department will offer advice and support to those interested in forming an association.

John Rymes

Participants in this workshop were treated to a slide presentation of possible future transportation modes. The slides demonstrated the diversity of hovercrafts and showed how all-terrain vehicles (ATVs) have been developed to serve various uses.

John Rymes said a major objective of transportation engineers is to assess the feasibility of an ATV freight system. In Alberta's case, such a system is being investigated for the region between Fort McMurray and the south shore of Lake Athabasca — a distance of 125 miles one way. If such a course is developed it would combine with a new barge system to reduce the current annual dredging costs.

Mr. Rymes noted that, when hovercrafts were first introduced in England, they were classified as aircraft and a pilot's licence was needed to operate one. Also, those first hovercrafts used expensive jet fuel. Today, they are diesel-driven and nearly anyone can operate one. He compared them to trucks in terms of driving difficulty. New hovercrafts can travel up to 50 miles-per-hour.

Mr. Rymes foresees the use of some combination of hovercraft and all-terrain vehicle where topography is difficult.

Participants inquired further about dredging on the Athabasca, hovercrafts, all-terrain vehicles and the use of blimps and dirigibles.

Dinner Address

Allan Theriault, Consultant, Stewart, Weir and Company

Road Development to the Year 2000

The Northern Alberta Transportation System Study (NATSS) was the first comprehensive inventory and analysis of transportation needs ever done for northern Alberta. It examined economic development potential and community and transportation needs for all of Alberta's north. Allan Theriault defined NATSS as a broad-based study which seeks to provide an overview of development opportunities in northern Alberta and tie in related transportation requirements.

In pointing out the importance of roadway systems, he said road transportation is key to the promotion of both social and economic activities in northern Alberta.

Mr. Theriault went on to say: "Things have really changed in the last 20 years. It is interesting to try to imagine what might happen in the next 20." He said today's society depends on roads and tomorrow's society also will.

Mr. Theriault admitted that forecasting future development is difficult. He said NATSS dealt with the problem by using a sector analysis approach. The sectors studied were agriculture, forestry, recreation/tourism and energy.

Agriculture Sector

Changing agriculture production through land expansion and intensification was examined. Mr. Theriault defined land expansion as increased production through increased improved land. Land intensification is increased production within an existing land base. The study found that most future agricultural development will result from changes to existing lands and expansion on nearby lands.

This means that transportation expansion will also be incremental. There will be a logical extension of local roads and, ultimately, there will be major collector roads in expansion areas. He noted that the unique East Peace area is the only new area envisioned for future development without road access now.

Forestry Sector

Information on wood use potential indicates this industry can support woodland operations and a variety of processing mills for some time in the future. Such forestry activity demands that commodities be moved to the processing mills as well as to the market.

Collector roads are needed to provide access to potential timber sheds with transport to market and mill sites proceeding from there. As well, rail access is important to pulp mills.

Recreation/Tourism Sector

This sector will influence transportation planning in northern Alberta. In the past, development of recreation and tourism facilities in northern areas has come only after development in other resource sectors. In the future, it will probably occur in tandem with other development.

The study showed that despite notable recreation resources in the north, they will not by themselves affect transportation development. Indeed, some recreation/tourism areas may be adversely affected if roadways go in, for example, major fishing resources, hunting lodges, wilderness tour areas, and so on.

On the other hand, better north-south access would tap larger markets and increase tourism opportunities. This would allow non-residents to travel in the northern part of the province.

Energy Sector

Although activity is ongoing and will continue to be ongoing in northern Alberta the energy sector is generally declining in other parts of the province. More emphasis will be placed on the north's heavy oil, *in situ* operations, and surface oil sands mining.

Any transportation construction that provides new or improved access to energy reserves will indirectly benefit the energy sector. Most conventional oil and gas fields already have transportation infrastructure in place. Mr. Theriault foresees that some new transportation construction could be related to pipeline installation or to moving workers to operational and maintenance locations.

Communities

The basic transportation requirements for communities involve:

- availability of year-round access
- availability of emergency service access
- availability of direct access to or from major points.

Mr. Theriault stated that road travel dominates other forms of travel for most northerners and no other method impacts the general public more than the private automobile.

Some key points made by the study were:

- All communities in the NADC area have all-weather road access except Chipewyan Lake, Fort Chipewyan, Fox Lake and Garden River.
- Some communities would rather have present roads upgraded than have new ones.
- Most communities would like more direct access to major centres.
- There is long-term need for better east/west connections.

What is in the Future?

Mr. Theriault displayed a map with integrated resource and community requirements. The map showed areas of individual, sectoral, and community need.

He said: "You take everything we have discussed and lump it all together and you get the following: a system formed by superimposing various sector and community requirements on regional and interprovincial needs."

He said this projection of future infrastructure development is not far-fetched but it shows that such a system is costly. "The total estimated cost is in the order of $800 million." Some costs are attributable to road, bridge and rail construction and upgrading. But the road system, when built, will provide access to forestry reserves, to tourism destinations, to the Northwest Territories, B.C. and Saskatchewan, and will also improve accessibility to all parts of the province.

"It is important to note that the planning process does not stand still," Mr. Theriault stated. "What we will see in the year 2000 depends on market conditions and the emphasis placed on the various sectors."

He suggested that in 2000 we might do some things differently than now. "Emphasis might be on other modes. We saw today off-road vehicles and their potential use. There might be pipeline slurries and other new technology. But roads, I think, will continue to dominate technology, and market conditions will continue to influence resource development and the timing of infrastructure requirements."

Mr. Theriault drew his presention to a close by stating that an ideal public transportation system must be general and will usually develop in response to recognized multiple-use need rather than single-use or immediate local need.

Open Forums

Day Two concluded with open forums focused around the two northern road networks.

Forum A — Northwest Road Network

The forum was facilitated by Bernie Hornby, NADC, Fox Creek. The panelists were:
Jim Sawchuk, Regional Director, Alberta Transportation and Utilities, Peace River
Charles Lendzion, Regional Director, Alberta Transportation and Utilities, Barrhead

Jim Sawchuk

Jim Sawchuk began the northwest forum by showing a set of overview slides with comparative budget figures, road mileage statistics, construction employment generated by road construction, and so on.

He then discussed such major 1988 transportation projects as:

- surfacing of Hwys. 35 and 58
- paving of Hwy. 67
- grading of Hwy. 40
- a new ferry at Tompkin's Landing.

The Department is heavily involved in providing infrastructure for the Peace River Pulp Mill near Peace River. The bridge for the mill will be the longest and highest in the province, according to Mr. Sawchuk. It will be just under ½-mile long and the latest estimates indicate it will cost $47 million.

Charles Lendzion

Charles Lendzion brought participants up-to-date on major projects in the area served by the Barrhead office of Alberta Transportation and Utilities. These include:

- development of a road from Grande Cache to Fox Creek
- paving north of Swan Hills
- major improvements to roads in the Whitecourt/Blue Ridge area
- upgrading of Hwy. 2 from Smith to Slave Lake.

Forum B — Northeast Road Network

This session was facilitated by Marcel Ducharme, NADC, Bonnyville. The panelist was:
Henri Hetu, Regional Director, Alberta Transportation and Utilities, St. Paul

Henri Hetu

Henri Hetu provided an overview of Alberta Transportation's projects in the northeast part of the Council area. Among the projects discussed were:

- development of a winter road from Fort McKay to Fort Chipewyan
- the Conklin to Cheechum road
- widening of Hwy. 63 for Fort McMurray
- Hwy. 36 south of Lac La Biche
- some relocation of #897 including a new bridge underway.

Both forums entertained questions from the floor following the presentations.

Plenary Session

Day Three

The last day of the Seminar featured an address by Hon. Larry Shaben, Minister of Economic Development and Trade, Province of Alberta. Fred Gingerich, Vice-Chairman of the Northern Alberta Development Council served as facilitator.

Infrastructure and the Northern Economy

Larry Shaben began by noting that Alberta, and indeed northern Alberta, has changed greatly in the last 15 to 20 years. Population has grown; demographics are different; infrastructure has improved; although agriculture and energy are still key, diversity has occurred; the economy has changed.

Mr. Shaben stressed energy's role in developing Alberta. "Energy has allowed us to devote a lot of money to education, whether it be primary, secondary, post-secondary or technical training — more than any other part of Canada — and this is part of our strength. A key part of our infrastructure is our education system."

He said education and training, along with research, has helped Alberta's economy shift from complete dependency on primary resources. He said: "Jurisdictions that depend heavily on commodities, experience wide swings in their economic strengths and Alberta has gone through those [changes]. The more we can fill in between strengths of primary industries and those of technology, the better our lifestyle. Infrastructure is a critically important part of achieving that diversification."

Alberta can compete with anyone in the world as far as transportation infrastructure is concerned. He mentioned Alberta Inter-Modal Services — a crown corporation established to reduce the costs of getting containerable goods to markets off-shore (out of Alberta). Mr. Shaben said although it was originally thought that about 18-19,000 containers would be moved by the year 2000, already the corporation is moving 30,000 containers and saving industry and consumers $5 million through lower freight rates.

There is a discernible shift from rail to air transport for goods which must be moved quickly. Also, companies now carry smaller inventories which provide quicker turn-around. This is important where market distance is a factor.

In discussing the world's evolution to an "information age", Mr. Shaben told delegates that in the last quarter-century, product life cycles were often only two years compared to about 50 years in the past. As a result, mass assembly plants have largely become flexible plants able to change machinery and equipment in response to market demand. He translated this into opportunity for northern Alberta. "There are opportunities anywhere in Alberta, to produce any kind of high-value, low-weight product and market it anywhere in the world," Mr. Shaben said.

The Minister finds, as he travels around the world, a great deal of interest in the way Alberta handles industrial, community, business and hazardous waste. He said Alberta is a world leader and others are anxious to learn from our province. People come from everywhere to look at the Swan Hills technology.

Mr. Shaben continued: "I think that all of us who are involved in policy planning have got to continue to place a high degree of emphasis upon infrastructure, and this seminar is important, not just in those hard types of infrastructure, but in the others I have talked about as well."

He asked for input on a continuing basis so government can properly respond to community and industry needs. "Whether we live in northern Alberta or central or southern Alberta, we must be conscious of how intricately our prosperity is tied to our capacity to move goods and services outside of Alberta."

Questions from the floor were on far-ranging topics — from the time frame for private line telephone service to a query about more funds for drainage projects. When one delegate expressed concern about progress and its effect on the environment, the Minister was quick to point out that the province always attempts to balance development with environmental protection.

Bear Pit Session with Two Ministers

Al "Boomer" Adair, Bob Elliott, Larry Shaben field some incisive questions

The morning concluded with a question and answer period featuring Hon. Larry Shaben, Minister of Economic Development and Trade; and Hon. Al "Boomer" Adair, Minister of Transportation and Utilities, and Minister Responsible for Northern Development. To accommodate the largest number of queries possible, delegates submitted written questions beforehand. The two ministers also handled questions on an extemporaneous basis from the floor.

Questions dealt with most areas of infrastructure including road maintenance budgets, mainstreet improvement programs, provision of sewer and water systems and industry's effect on the environment.

Seminar Closing

Bob Elliott, NADC Chairman, drew the Seminar to a close.

After thanking delegates for attentive participation, he said he believed everyone would leave Slave Lake having learned a great deal, not only about the status of infrastructure in the north today, but also about plans for the future.

He told delegates that information-sharing and learning had been the objective of the Seminar. Ample opportunity had been allowed to ask questions and get answers, with experts available to cover every facet of infrastructure. He stressed the point that participants would continue to have access to the experts they had met at the Seminar and reminded listeners that they only have to contact the experts to avail themselves of the expertise.

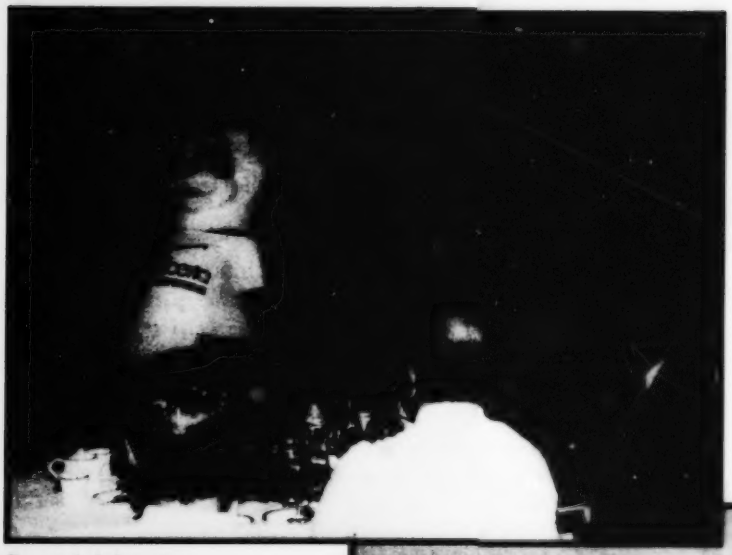
Dr. Elliott saw the final "Bear Pit" session as a very informative and worthwhile part of the Seminar and thanked the Ministers and delegates for their participation.

He concluded by saying he was certain delegates would transfer what they had learned about infrastructure to good use in their own communities.

Seminar Highlights

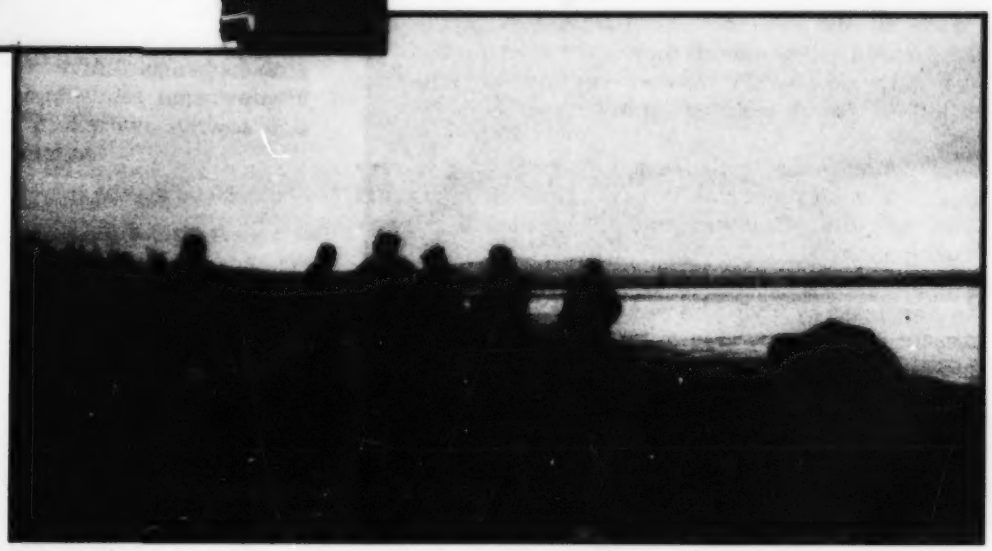
"Take my word for it!"

Two trivia winners compare their prizes.



Special delegates, "Blue Jay" and "Freeway" regale delegates.

Two northerners use their workbooks to bone up on the day's schedule.

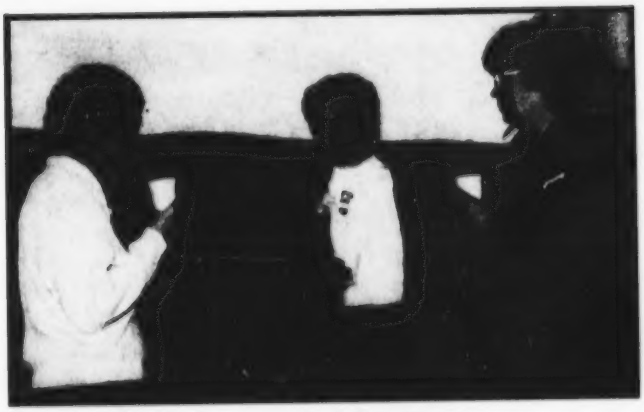


Down to the shores of Lesser Slave Lake for a glimpse of this tourism resource.

Seminar co-ordinators get it together.

Three wise men consult their oracle.

Seminar secretary explains how she sees in the dark during unplanned infrastructure shut-down.



Women delegates made a good showing.

A display that could have been made-to-order for the seminar.

Serious business under discussion.

Seminar Highlights

Delegates enjoy the Northern Mixer on the first evening.

Seminar provided ample opportunities for contact with technical experts, government and industry representatives.

"What a great learning experience!"

Time out for a friendly laugh.

"See you at the next Northern Seminar!"

Arguing over a Northern Trivia answer? That's the answer box on the table!

List of Delegates

ADAIR, Hon. Al "Boomer"	Minister, Transportation & Utilities, Peace River
ALI, Mahmuda	Transportation & Utilities, Edmonton
ALLARD, John	Industry, Science & Technology, Edmonton
ALLEN, David	Allen Disposals Ltd., Peace River
ALLEN, Donna	Allen Disposals Ltd., Peace River
ALOOK, Leo	Community Association, Trout Lake
ANDERSON, Ken	AVC Grouard
ANDERSON, Marv	Marv Anderson & Associates Ltd., Sherwood Park
ANDRIES, Kirk	Forestry, Lands & Wildlife, Edmonton
BAKER, Neil	U.M.A. Engineering Ltd., Edmonton
BARTON, Dave	Alberta Environment, Edmonton
BARTON, Richard	Time Air, Lethbridge
BEAVER, Mike	NADC, Desmarais
BELAIRE, Phyllis	Village of Hythe
BELLINGHAM, Gordon	Alberta Motor Transport Board, Red Deer
BELTRANO, Linda	Northern Development Branch, Peace River
BIGSTONE, Eric	Community Association, Trout Lake
BJORGUM, Lee	Community Futures, High Level
BJORNSON, Pete	Town of High Level
BOND, Inge	ID #23, Fort Vermilion
BOURASSA, Leo	ID #18(N), Fort McMurray
BOURGEOIS, Barry	R. Angus Ltd., Peace River
BOURLONG, Jane	Town of Valleyview
BRAUER, Erwin	Mackenzie Regional Planning Commission, Berwyn
BRIDGEMAN, Grant	Transportation & Utilities, Edmonton
BROOKER, Vicki	*Lakeland Review*, Elk Point
BULLOCK, Wayne	Municipal Affairs, Slave Lake
CHORNEY, Nestor	Stewart, Weir & Co., Edmonton
CHRISTIE, Morley	Forestry, Lands & Wildlife, St. Paul
CLEASE, Jim	County of Grande Prairie, Beaverlodge
COLLINS, Archie	Settlement Association, Elizabeth
COLLINS, August	Metis Association, Bonnyville
COLLINS, Gordon	Metis Association, Lac La Biche
COLQUHOUN, Norm	ID #17(E), Flatbush
CONRAD, Randy	Randall Conrad and Associates Ltd., Edmonton
CRISP, Grace	Chamber of Commerce, Swan Hills
CRISP, John	Town of Swan Hills
CROUCH, Karin	Northern Development Branch, Peace River
CROUCH, Ted	Northern Development Agreement, Peace River
CURR, Chuck	Municipal Affairs, Peace River
DAWSON, Jim	Technology, Research and Telecommunications, Edmonton
DEXTRASE, Eugene	High Level
DOW, Hazel	Village of Hines Creek
DUCHARME, Marcel	NADC, Bonnyville
ELLIOTT, Bob	Chairman, NADC, Beaverlodge
EWING, Carmen	ID #21, Fairview
FINNERTY, Murray	Northern Development Branch, Peace River
FOSTER, Linde	ID #21, Worsley
FOX, Ray	The Native Perspective, Lac La Biche
GARRATT, Diane	Business Development Centre, Slave Lake
GAUTHIER, Elaine	NADC, Plamondon
GIAMMARIOLI, Franco	Village of Plamondon
GIBSON, Dave	Village of Kinuso
GINGERICH, Fred	NADC, Athabasca
GIRARD, Emil	ID #18(N), Fort Chipewyan
GRIFFITH, Alan	Transportation & Utilities, High Prairie
GRIFFITH, Cecil	ID #18(S), Goodridge
GRIMBLE, Lewis	Grimble Engineering, Edmonton
GROOM, Ronda	Community Futures, Slave Lake
HALL, Sam	Municipal Affairs, High Prairie
HANSEN, Russel	ATCO Metal, Calgary
HANSON, Margaret	Mayor, Swan Hills
HARBOURNE, Del	Mayor, Manning
HARPE, Richard	County of Grande Prairie, Valhalla
HEMEON, Hazel	Bluenose Consulting Inc., Peace River
HETU, Henri	Transportation & Utilities, St. Paul
HOFFARTH, Elsie	Town of Spirit River
HORNBY, Bernie	NADC, Fox Creek
HOULE, Ernest	Whitefish Band, Goodfish Lake
HUNTER, Miles	Whitefish Band, Goodfish Lake
HUPKA, Peter	Village of Boyle
HURSEY, Robert	Metis Association, Edmonton
IMRIE, Len	Town of Sexsmith
IP, Eddie	Transportation & Utilities, Edmonton
JENKINS, Stan	Kakeeyan Forest Industries, Atikameg
JONES, David	Alberta Power Limited, Peace River
KEEN, Bob	Government of British Columbia, Dawson Creek
KEITH, Don	NADC, Fort McMurray
KELHAM, Robert	City of Grande Prairie
KIMPINSKI, John	National Transportation Agency, Saskatoon
KNIGHT, Chuck	Mayor, Fort McMurray
KOEHLER, Uwe	Health Unit, Peace River
KOLODYCHUK, Brent	Economic Development and Trade, St. Paul
KREINER, Bernie	Town of Slave Lake
KREINER, Helmut	Mayor, Whitecourt
KREKE, Lynn	Northern Development Branch, Peace River
LANG, Pat	Alberta Environment, Edmonton
LARSON, Hank	PFRA, Hanna
LATASY, Ray	R. Angus Ltd., Peace River
LATTA, Bud	Stanley & Associates Eng. Ltd., Edmonton
LENDZION, Charles	Transportation & Utilities, Barrhead
LETENDRE, Paul	Community Association, Loon Lake
LINDSEY, Marv	Alberta Road Builders, Slave Lake
LODOEN, Peter	R. Angus Ltd., Peace River
LONG, Kay	Municipal Affairs, Slave Lake
LORIMER, Andrew	Lorimer Consulting, Peace River
LOVSIN, Frank	Lovsin Markets Ltd., Peace River
MANN, John	Transportation & Utilities, Edmonton
MATTHEWS, Ken	Municipal Affairs, Slave Lake
McARTHUR, Dave	McArthur Enterprises, Lac La Biche
McCULLOUGH, Reegan	Municipal Affairs, Slave Lake
McDONALD, Rick	Municipal Affairs, Edmonton

McFARLAND, Ronald	Heavy Construction Association, Edmonton
McINTYRE, Dave	Transportation & Utilities, Edmonton
McPHAIL, Al	W-E-R Engineering Ltd., Calgary
MESSERSCHMIDT, Werner	ID #15, Whitecourt
MEYERS, John	Metis Association, Slave Lake
MICHAUD, Claude	Municipal Affairs, Slave Lake
MILLER, Paul	Canadian National Railways, Edmonton
MILLIGAN, Geoff	Northern Development Branch, Peace River
MILNE, Bruce	Alberta Environment, Edmonton
MOLTZAN, Bruce	Town of Fox Creek
MOSKALYK, Henry	Mackenzie Regional Planning Commission, Berwyn
NEEDHAM, Colin	Northern Development Branch, Peace River
NELSON, David	Peace River Public Relations, Peace River
NELSON, Pat	Northern Development Branch, Peace River
NOVAK, Ben	Stanley & Associates Eng. Ltd., Edmonton
OLSON, Tom	ID #15, Fort Assiniboine
PANKRATZ, David	Government of British Columbia, Dawson Creek
PARENTEAU, Garry	Settlement Association, Fishing Lake
PASZKOWSKI, Walter	Mayor, Sexsmith
PATRY, Charles	County of Athabasca #12, Athabasca
PATTISON, David	Economic Development Council, Valleyview
PEAIRE, Paul	Chamber of Commerce, Slave Lake
PEARSON, Bill	Mayor, Slave Lake
PERSCHON, Fritz	Unocal Canada Limited, Calgary
PHILLIPS, Bill	University of Alberta, Edmonton
PIQUETTE, Doug	Blueprint for the Future, Lac La Biche
PIQUETTE, Leo	MLA, Athabasca-Lac La Biche
POLOWY, Ernie	Economic Development & Trade, Edmonton
PONTO, Doreen	Northern Development Branch, Peace River
PROCTER, Michael	Mayor, Peace River
PRODAHL, Randy	Ulanicki Contracting Ltd., Bonnyville
REID, Arlene	Northern Development Branch, Peace River
RENKEMA, Luke	ID #15, Fort Assiniboine
REYNOLDS, Chris	W-E-R Engineering Ltd., Peace River
REYNOLDS, Jim	NADC, Fairview
RICE, Vin	Kinuso
RICHARDS, Mike	Municipal Affairs, St. Paul
RIVAIT, Jim	Forestry, Lands & Wildlife, Edmonton
ROBERTSON, David	Town of Swan Hills
ROESLER, Ewald	Alberta Government Telephones, Edmonton
RONDEAU, Andrew	CKWA, Slave Lake
RONDEAU, Ray	Town of Grimshaw
ROOT, Leon	Transportation & Utilities, Edmonton
ROTH, Dennis	Highway 88 Committee, Slave Lake
RYMES, John	J.E. Rymes Engineering Ltd., Calgary
SAWATZKY, Cliff	Transportation & Utilities, Athabasca
SAWCHUK, Jim	Transporation and Utilities, Peace River
SCHAFFLER, Dale	Town of Manning
SCHINKINGER, Tony	Mayor, Athabasca
SEATON, Hugh	Northern Development Branch, Peace River
SHABEN, Hon. Larry	Minister, Economic Development & Trade, Edmonton
SHANNON, John	Municipal Affairs, Edmonton
SHORT, Paul	Forestry, Lands & Wildlife, Edmonton
SIMPSON, Ken	Waste Management Corporation, Edmonton
SINCLAIR, Henry	Slave Lake
SINCLAIR, Wally	Metis Rural Housing Corporation, Bonnyville
SLOAN, Rick	Northern Development Branch, Peace River
SMITH, Bill	Career Development & Employment, Slave Lake
SMITH, Cliff	Forestry, Lands & Wildlife, Edmonton
SMITH, M. Joan	Village of Hines Creek
SOLKOWSKI, Rick	Consumer & Corporate Affairs, Edmonton
SOULSBY, Jack	Economic Development & Trade, Edmonton
STEEVES, Ken	Alberta Government Telephones, Grande Prairie
STEPNISKY, Jerry	Industry, Science & Technology, Edmonton
STONE, Darrell	County of Grande Prairie, Grande Prairie
SUPERNAULT, Cliff	Municipal Affairs, Edmonton
TAYLOR, Craig	Forestry, Lands & Wildlife, Edmonton
TEILLET, Kathy	Northern Development Branch, Edmonton
THERIAULT, Al	Stewart, Weir & Co., Edmonton
THORDARSON, Cynthia	Northern Development Branch, Peace River
TOMLINSON, Henry	Federation of Alberta Gas Co-ops, Edmonton
TOPINKA, Doug	Town of Valleyview
URLACHER, Eva	ID #18(S), Grand Centre
VAN BEERS, Gerry	MD of Fairview, Fairview
VANDERMEER, John	Unocal Canada Limited, Calgary
VARRICCHIO, Greg	City of Grande Prairie, Grande Prairie
VINCENT, Dennis	Trimac Transportation Services Ltd., Calgary
VINCENT, Pat	Town of Elk Point
WALKER, Ross	Canadian National Railways, Edmonton
WALTER, Bob	Mayor, High Level
WAN, Stephen	Public Affairs Bureau, Edmonton
WEBSTER, Doug	University of Calgary, Calgary
WHITEHEAD, Jean Marie	Kakeeyaw Forest Industries, Atikameg
WIEBE, Jake	ID #23, LaCrete
WILLOWS, Bill	Municipal Affairs, Slave Lake
WILSON, Stuart	Amoco Canada Petroleum, Calgary
YELLOWKNEE, Ray	Native Counselling Services, Edmonton
YODER, Edward	ID #17(E), Smith
ZNAK, Mike	Transportation & Utilities, Edmonton